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ABSTRACT

A synthesis of ideas and proposals that have emerged in the course of recent Programme on Educational Building activities places emphasis on issues relating to the economic management of existing building resources. In recent years the development and administration of educational building policies have been affected by changes in the organization of education, school demography, and school programs. The response of educational building policies to these changes needs to be recognized as complex and continuously changing. Much of the school building stock shows it was needed in a hurry and a large proportion is relatively expensive to keep in service. Policies are now developing that lead to better educational provisions, improvements in the quality of community life, and more efficient use of public resources. Decision-making structures with funding arrangements can reflect the new purposes of school-community buildings and introduce incentives that encourage more efficient and creative management. Viewing each school as part of a cooperative network seems likely to greatly assist the achievement of this objective. A 50-item bibliography is appended. (MLF)

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TOWARDS RESPONSIVE BUILDING POLICIES

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Decentralised Programme on
Educational Building

TOWARDS RESPONSIVE BUILDING POLICIES

by

John Mayfield

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The attached paper, prepared by Mr John Mayfield, Deputy Director-General of Education, South Australia, is based on the inputs to and findings of the five seminars held in 1982-83 on various aspects of rationalisation organised under the auspices of the Programme on Educational Building (PEB).

These seminars concerned: Effective Strategies for Rationalisation (Bristol, June 1982); Forecasting of Needs (Geneva, October 1982); Property Management (Rotterdam, November 1982); Building Provision for the 16-19+ Age Group (Copenhagen, April 1983); and Provision and Management of School Buildings (Adelaide, May 1983).

The paper also draws upon the results of other PEB work, especially on Co-ordination of School and Community Facilities and on the findings of the seminar on Evolving Roles of Central, Regional and Local Authorities in School Building held in Madrid in April 1982.

Because of its general interest, the paper served as the main background document to the Symposium on Educational Building Policies in a Context of Decentralisation held in Sèvres, near Paris, in November 1983.

Although a synthesis of ideas and proposals that have emerged in the course of recent PEB activities, the paper is to be regarded as the author's interpretation of these rather than that of seminar participants and rapporteurs, contributors of papers and case studies or the OECD. Nevertheless, the Steering Committee believes that all those who have been involved in the recent work will find in it a broad reflection of views and ideas expressed.

The Committee recognises however that, because of its emphasis on issues relating to the economic management of existing building resources, the paper does not adequately cover the particular problems facing countries or regions which still have to cater for very considerable increases in their school populations, except insofar as it outlines strategies for the development of more flexible stock profiles and design solutions to avoid future over-capacity.

CONTENTS

	Page
INTRODUCTION	4
THE CONTEXT	6
The educational and social context	6
The economic context	9
The political and administrative context	14
IMPLICATIONS FOR POLICY	18
A property management approach as part of educational building policy and practice	19
Minimising the economic implications of changes in pupil numbers	21
Reduction of recurrent premises-related costs	24
The decision-making structures	26
The development of a network of school and community facilities	31
Implications for new design, research and development	36
CONCLUSION	40
LIST OF REFERENCES	42

INTRODUCTION

1. In France in the decade 1965-75 more than 3 000 secondary schools were opened with total accommodation for 2.67 million new pupil places. During 1970, at the peak of the building activity, the equivalent of one new secondary school was opened for every day of the year (1). In the two decades between 1950 and 1970 the equivalent of one new school was opened every week in England and Wales (2). In Manchester alone, forty new secondary schools were completed (3) and a similar pace of school building characterised the situation in most Member countries.

2. It was a period of sustained growth in school age population, high confidence in the link between both individual and national development and 'better' schooling, and the concept of 'better'schooling included buildings of design and standard to match developments in teaching methodology.

3. The task of those responsible for accommodating the burgeoning pupil population was to provide purpose built schools as quickly and efficiently as possible. As the figures show, there can be little doubt that they succeeded in both quantitative and qualitative terms. Virtually every educational system in Member countries acquired substantially greater numbers of buildings, many with significant increases in area per pupil, improved standards of fittings and equipment and a wide range of such specialist teaching spaces as laboratories, workshops, music-drama centres, etc.

4. The accompanying need for increased funding was linked with steady increases in the total pupil population and, at a time of general economic prosperity, the flow of new capital reached relatively high levels.

5. With the advantage of hindsight it may be thought that different funding and building policies should have been developed. Perhaps, for example, greater concern should have been shown for the differences between the old and the new; closer attention paid to the long-term implications of maintenance and operating costs and the development of funding policies which were not so closely tied to overall enrolment trends.

6. Whatever regrets may now be felt about the results of this period of rapid growth (which include a legacy of industrialised and 'temporary' buildings), the difficulties of the time need to be fairly assessed. The building industry was heavily overloaded with the demands for school buildings matched by demands for housing, hospitals and industrial premises. Hence the need for what were cheap, fast but untried methods of prefabrication which, at the time, led to a disparity between the speed and cost of achieving a 'new place' compared with the improvement of an 'old space'.

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It is very hard to imagine that such a disparity would have been politically acceptable although generalisations are difficult because the power of the education lobby varied so widely between countries and between educational authorities in decentralised systems.

7. It is now clear, however, that the context has changed and those policies which were so effective in meeting the needs of a situation characterised by growth, affluence and confidence in a centrally administered school system are also needing to change. Increasing pupil numbers have generally given way to overall stability or decline; there are significantly fewer capital funds available, and the public is less sure about the contribution schooling makes to the life chances of individuals and the prosperity of the nation as a whole. The responses demanded by these changed circumstances from those responsible for school building policies are by no means simple.

8. For example, it is not simply a matter of 'fewer pupils require fewer buildings'. In every educational authority shifts in school age populations across sectors and between geographical locations are sustaining a demand for new additional accommodation even as total numbers decline.

9. Nor is it a matter of simply rationalising the deployment and use of the existing stock of buildings which, at first glance, appears to represent a total capacity well in excess of the total need for pupil places. Fundamental changes have occurred in the community's view of the purposes to be served by a school building and that which was funded, designed and built exclusively for children and their teachers is now expected to accommodate a very much wider range of social as well as educational and training purposes. These new expectations are more than mere opportunistic exploitation of surplus school space. In many Member countries the association of the school with its local community is regarded as essential and the design, funding, location and management of new school-community facilities reflect this view.

10. These and other aspects of the changes in the educational, social, economic and political context need to be fully appreciated if responses in terms of educational building policies are to be appropriate. The purposes of this paper are to draw on the experience of policy makers in Member countries to clarify some key characteristics of these contextual aspects and to offer guidelines on the development of responsive policies for the provision and management of educational buildings.

The educational and social context

11. Two questions underlying any educational building programme are "How many enrolments"? and "What spaces do they require?". They are deceptively simple questions which are very difficult to answer - difficult enough in a newly developing area and often even more perplexing in an established community.

12. For example, the basic pattern of organisation of education systems may be undergoing change. Australia, The Netherlands, Portugal and the United Kingdom are countries in which the organisational structures of education, particularly at the secondary level, are at present undergoing fundamental change with the emergence of a variety of age groupings in the secondary sector, new relationships between education and training, and changes in the transition point from primary to secondary schooling.

13. The demography of a particular area changes over time. In every country in which there is a decline in school age population at the macro level, examples can be found of increasing enrolments at the local level as new suburbs are developed, people return to rehabilitated inner cities and as other exogenous factors such as the cost of transport, the search for scarce jobs, or home ownership opportunities change. Even medium-term predictions of enrolments can be of growth, stability or decline depending on which assumptions are accepted about a single factor such as retention rates.

14. In many countries there are drifts which are very difficult to forecast from one educational sector to another (e.g. academic to vocational), from public to private schools, from conventional secondary schooling to a variety of training schemes, and even from unemployment back to secondary schooling.

15. Thus, even if the basic quantitative planning questions are restricted in their scope to a particular level of schooling in a particular locality the answers are heavily qualified and uncertain.

16. Growth and decline which have alternatively characterised the quantitative aspect of the educational context in recent years are now recognisable as passing episodes in a varying pattern of pupil enrolments. At the local level in particular, which, in the end, is the level at which school building decisions need to be made, enrolment forecasts are highly vulnerable to changing factors which can range from such unpredictable aspects as the popularity of a school principal to the local effects of national migration policies or a government's political commitment for or against support for the private school sector.

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17. The qualitative aspects of the educational context will also change. Curriculum emphases, working conditions for teachers, and time-tabling practices are contextual elements which have a direct impact on the required number and nature of learning spaces, and in virtually every case these factors are beyond the control of those directly responsible for the provision of educational buildings.

18. Consider, for example, the changes which have occurred in relation to:

a) reductions in class size and pupil: teacher ratios which have a direct impact on the need for classroom space;

b) increases in the range of size of teaching groups from small groups for tutorials, upper secondary and remedial classes to large groups for lecture and audio-visual presentations;

c) trends in some Member countries towards a greater emphasis on performing and creative arts with the need for special facilities for art, drama, music, gymnastics, dance, etc.;

d) reorganisation of schooling from academic and technical schools to comprehensive and now, as youth unemployment demands new approaches to vocational training, a tendency in some authorities to return to a system in which academic (grammar), comprehensive and technical schools exist;

e) integration of handicapped pupils into the mainstream of the school which requires modification to access, furniture, equipment and recreational facilities.

19. The point is that the public education system is bound by its charter to respond in some way to all of these changes as they occur. It cannot limit its response to certain geographical areas or to particular groups of students or choose to defer responses to demonstrated needs. Youth unemployment, for example, or an influx of refugee children, demands an urgent response in building as well as programme and staffing terms and, unlike the private school system, the public system must ensure that there is equal access to educational opportunity for all pupils. Furthermore the system cannot accommodate such new qualitative demands in advance; the response must be an adaptive one.

20. From the point of view of educational building the educational context to which policies must respond needs to be recognised as complex and continuously changing in both quantitative and qualitative terms. Certainly there is room for improved articulation between macro and micro planning (4) but a reliance on answers to the simple questions of how many pupils and what spaces do they need will inevitably lead to a mismatch between the buildings provided and the building opportunities which are appropriate.

The dynamics of the educational context alone indicate that a continuous process of management of the entire building stock is a necessary attribute of educational building policy.

21. There is a further contextual element, closely linked with the educational context but different from it, which school building authorities must be quite clear about. The school building is now widely regarded as a community asset. Its prime purpose may remain the provision of an appropriate learning environment for pupils and teachers but in a large and growing number of communities it is now firmly established policy that the school building shall also make an essential contribution to the quality of community life.

22. In some examples the school provides a temporary or incidental service. It may serve as a church for a group not yet able to build their own; a temporary health clinic in a newly developed community; after hours accommodation for adult classes or local drama groups or a network of emergency shelters in the event of a natural disaster. Increasingly arrangements for community access are preplanned into the design, location and funding of a school-community complex.

23. Underlying this closure of the gap between the school and the community it serves is a set of beliefs about education as a continuing process, increasing the effectiveness of education by engaging parents, children and teachers in an active partnership; and the value of the people, places and events within the general community which make it an educational resource to complement the in-school activities of teachers.

24. This now established view of the school as a dual purpose facility, a combination of a learning institution and a social institution of relevance to the community, presents a new set of problems and opportunities to those responsible for school building. Effective approaches to the problems of funding, ownership, deciding priority of use, maintenance and management responsibilities have been analysed and documented (5,6) and, more recently, a number of observers (7) have shown how this view of the school presents opportunities for the delivery of new services and increased use of school buildings.

25. Clearly both the process and the outcome of adaptive school building policies will be affected by what view is taken of the school. The point will be developed later in this paper as other contextual aspects are considered but from the literature and from the policies emerging in virtually all Member countries the conclusion is that school buildings are no longer the exclusive property of teachers, children and a 'closed' schooling system but are increasingly being regarded as a community asset and an investment in the quality of community life. This view of the school will affect many aspects of the provision of new school buildings and influence the strategies and objectives of the adaptation of existing facilities.

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The economic context

26. The combined effect of economic recession, overall enrolment decline and an apparent reduction in the priority assigned by governments to educational capital expenditure have caused administrators to analyse in greater detail the financial and economic context in which school building occurs. As a result, a number of important characteristics of the capital assets of any public educational system can now be more closely appreciated.

27. Educational services in all Member countries own and operate a very large stock of school buildings (8,9). The precise number of assets, their monetary value in terms of either market worth or replacement cost, and, in some cases their recurrent operating costs are often not well documented but those estimates which have been made show that huge holdings exist whose efficient and economic management must now be carefully considered (10,11,12). What, then, do these analyses and considerations reveal?

28. Not only do school systems hold very large stocks of educational buildings but these stocks will tend to increase independent of any decline in pupil numbers. Since buildings are fixed assets any shifts in pupil populations from one location to another, or between sectors, or from one curriculum area to another will tend to cause an accumulation of building stock. Thus in any system no matter whether enrolments are rising, falling or remaining stable, both shortages of necessary new places and surplus places will always be generated. In a period of enrolment decline, the accumulation of surplus may be more rapid and obvious but the tendency to continuously generate surplus space is an inevitable characteristic of the school building stock and requires a deliberate policy response in any well-managed system.

29. Policy makers must choose between an approach in which the accumulation of surplus is seen as an opportunity for improving space allocations and an approach in which the accumulation of surplus is controlled with a view to maintaining equality across the educational system. Commercial analogies can easily be misleading in the public human service domain but a 'real estate' approach (13) in which deliberate efforts are made to control the accumulation of surplus and forge a link between the capitalisation of surplus and the funding of shortfall appears to have a place in the management of educational property.

30. Despite the generation of surplus, all school systems will need a continuous input of new capital funds the size of which is partly dependent on overall pupil enrolments and partly dependent on the disposition and conditions of the existing stock.

31. Clearly, if enrolments are increasing overall, then new school places will be needed but it has not always been recognised that overall enrolment decline is also accompanied by a legitimate need for new capital expenditure. Population shift and changing educational requirements are two obvious contributing factors but there is a wide range of less direct pressures which make it necessary for funding authorities to sustain an adequate flow of new capital. Improvements in pupil: teacher ratios, reductions in class size, provisions for staff amenities, increased use of

ancillary staff, changes in teaching methodologies and the installation of new teaching technologies are examples of policy decisions which have a direct impact on the need for additional building. Any pause in the flow of capital associated with these influences is certain to produce inequalities of building provision between schools and establish a backlog of building needs.

32. Declining enrolments can result in increased expectations about the nature and extent of building needs. In many schools in which enrolments have fallen the resulting 'surplus' space has provided opportunities for new and unquestionably legitimate educational activities. Student club-rooms, remedial teaching spaces, storage, resource centres, staff preparation and meeting rooms, and additional performing arts areas are but a few examples of the ways in which underused spaces have been converted to alternative purposes which then become a permanent feature of the school programme. It follows that these activities and the spaces they occupy will tend to be retained when either enrolments rise or the school is redeveloped.

33. Paradoxically, therefore, declining enrolments are almost certain to increase the comparative costs of both new and existing schools unless there are policies which in some acceptable way control the opportunistic use of incidental surplus.

34. The existence of large, increasing and aging school building stocks creates a series of inescapable demands for recurrent expenditure. Later the prevailing separation of capital and recurrent funding will be considered but at this stage it is sufficient to note that from the point of view of the buildings themselves there will be premises-related costs which can be categorised as follows:

non-teaching staff: associated with ground maintenance, caretaking, etc.

services: energy and water

cleaning: which in some countries ranks with energy costs as the major component

taxes: rates, etc.

repairs and maintenance (14).

35. From the point of view of the economic management of educational resources, these direct recurrent implications of any building must be carefully assessed as a component of total recurrent educational expenditure. Their significance appears critical to the development of policies aimed at managing the total stock of any educational system and they would be one of the first areas to be considered in any private sector approach to property management.

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36. Two relevant questions are "What is actually saved if an underused school building is taken out of commission?" or, conversely,"Is the authority up for significant additional recurrent expense if it simply allows surplus buildings to accumulate?". Opinion appears to be somewhat divided on this issue with some commentators tending to the view that once a school building is up and paid for then its premises-related recurrent costs constitute a relatively insignificant component of the total available recurrent resources.

37. Arguing against school closure in the face of enrolment decline, Shakeshaft and Gardner (15) conclude that:

> "School district officials often predict the potential savings to taxpayers of closing one or more schools, but the literature contains little solid data to support these claims".

They go on to make the important point (part of which will be taken up later) that:

> "Case studies of the politics of school finances indicate that the rising cost per pupil, not the absolute cost of education, is what mobilises taxpayers to demand economies of their school systems. Closing schools reduces per pupil costs by only a small amount; this reduction is seldom worth the community unrest that school closings bring".

38. It is interesting to note that, in the past, educational authorities have tended to pay only passing attention to the nexus between capital value of their assets and their recurrent liabilities. It is also a sign of greater concern for the current limits on available resources that authorities are now paying much closer attention to this aspect of school building economics, and evidence which tends to a different conclusion from that reached by Shakeshaft and Gardner is appearing. One New Zealand authority has concluded that:

> "The costs involved in keeping school plant operating cannot be ignored. ... Many schools built during periods of rapid growth are now coming up to 20 and 30 years old and are reaching the point where renewal of the fabric or services... is necessary" (16).

39. Analyses completed in Austria (17), New Zealand (18) and the United Kingdom (19) indicate that premises-related costs range from 10 to 25 per cent of the total recurrent cost of operating a school <u>including the cost of teaching staff</u>. This range is wide enough to suggest that further research is needed on the ways in which premises-related costs are calculated but even the lower end of the range identifies these costs as significant.

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40. Taking a somewhat different approach the originators of the DES Circular 2/81 estimated that "Every 100 000 surplus places taken out of use should on average yield (annual) savings approaching £10 million" and described this potential saving as the equivalent of one sixth of the total annual amount spent on books for schools (20).

41. Thus, in an economic context in which recurrent funds for education are under considerable strain (which is significantly relieved by the release of marginal discretionary funds) the conclusion seems inescapable that as a significant component of total available funding, premises-related costs need to be identified and made known to those involved in building decisions especially teachers, parents and members of the school community. As the analysis in Figure 1 shows, the structure of premises-related costs is such that the demand for funds for this purpose will tend to become an increasing burden in future.

42. From the longer term viewpoint the maintenance of the building stock is of special significance. School buildings are expected to last a very long time. For example, in England there are some 5 000 secondary schools and 20 000 primary schools which are fully supported by Local Education Authorities. At the current level of school building activity, Rattenbury (21) has calculated that it will take 300 years to replace the existing stock and, although the calculation is oversimplified, the general point remains valid. Those responsible for school buildings will either have to find ways to adequately maintain their stock or such a backlog of repairs and maintenance will develop that buildings will run down to the point where they are unsafe and inoperable. The signs are already emerging that such a dismal forecast may well be accurate and in many school systems there is deepening concern about the condition of building components and associated grounds.

43. A recent survey in one Member country concluded that although expenditure in real terms on maintenance of educational buildings has increased slightly over the past five years, most authorities in the study showed a substantial and often growing backlog of urgent work, the deferment of which could lead to wasteful expenditure in the future. One report of the survey makes the very important observation that, bearing in mind that the biggest building programmes were in the period 1970-74, it is clear that in most cases the cycle of replacement and renewal has not yet reached its peak.

44. It is very doubtful whether many school building authorities have kept pace with the authorities surveyed by even sustaining their maintenance expenditure in real terms over recent years, yet every Member country would have experienced a similar surge in capital activity in the sixties and seventies.

Figure 1 STRUCTURE AND ESTIMATES OF PREMISES-RELATED COSTS AS PART OF OVERALL RECURRENT COSTS (in per cent)

a) AUSTRIA (middle and upper levels of secondary education)			
Location and building-related costs			
Investment depreciation allowance			
Building	11		
Equipment	6		
Free transport for students	5		
Subsidies for students' homes	5		
Building-related operating costs			
Regular maintenance	3		
Energy	3		
Cleaning	2		
Staff	4	39	
Teaching staff requirements		55	
Teaching aids and other outlays			
Textbook project	2		
Sundries	4	6	
		100	
b) NEW ZEALAND (for a group of 3 schools)			
Premises-related costs			
Building maintenance (m^2 base)	1.66		
Sealed area maintenance	0.09		
Playing field maintenance			
a) Topdressing	0.19		
b) Grasscutting	0.31		
Rates	0.24		
Light, heating, water costs	1.30		
Caretaking/cleaning	5.35	9.14	
Teachers salaries		86.05	
Other operating costs			
Ancillary salaries	3.03		
General expenses grant	1.06		
Book grant	0.60		
Telephone grant	0.12	4.81	
		100.00	
c) ENGLAND & WALES (premises-related costs estimated at 20-25 per cent of total operating costs of a 750 place school)			
Premises staff			
Caretaking	4.94		
Cleaning	1.96		
Groundsman	2.21	9.11	
Premises			
Maintenance			
Minor day-to-day	0.53		
Share of programmed expenditure (say 1.5 per cent of capital value)	8.57		
Heating: gas	3.53		
Electricity	1.94		
Cleaning materials and equipment	0.62		
Grounds materials and equipment	0.70	15.89	25.00
Other (incl. teaching staff)			75.00
			100.00

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45. From almost any viewpoint the maintenance backlog problem seems to be approaching crisis proportions. On the one hand there is an accumulating and aging building stock with escalating need for recurrent expenditure and on the other hand such limits to the availability of both capital and recurrent funds that there seems little doubt that authorities are falling seriously behind in their maintenance programmes.

46. School building policies must respond to this situation. There will always be a need for adequate input of maintenance funding which, incidentally, should be determined by an assessment of need, and any shortfall in necessary funding will create problems for the future. At the same time, however, it behoves those responsible for educational resource management to develop policies and procedures which lead to effective control over premises-related costs, and either eliminate, transfer, or share with other users, the liability for recurrent expenditure. It is simply not rational for an educational authority to continue to maintain facilities which will not be needed for educational purposes.

The political and administrative context

47. Regardless of whether enrolments are currently rising or falling the dynamics of the educational and social context will sustain a continuous need not only for new buildings but also for better buildings in the sense that they are functionally more appropriate to a changing set of needs.

48. A study of the economic context shows that the traditional expectation that these needs will be met (in a reasonably short time span) exclusively by the acquisition of additional resources is no longer tenable. Expectations which gained expression in such statements as "a continuous and almost unlimited supply of bricks and mortar" (22), and which seemed to be realistic in the halcyon days of the sixties are now quite unrealistic. In every Member country funding authorities at all levels are clearly unable - and to varying degrees unwilling - to meet building needs exclusively from new capital.

49. The logical policy response has been to identify potential opportunities inherent in the existing stock and to attempt a range of approaches under the general heading of 'rationalisation'. Attention has tended to focus on surplus buildings, originally linked closely with the incidence of enrolment decline but now more and more recognised as an endemic characteristic of any school system. In its simplest form a policy of building rationalisation aims at identifying surplus buildings (usually by comparing caculated capacity with enrolment requirements) and then removing the surplus by a combination of methods - disposal, mothballing, relocation, conversion to other purposes, etc. Typically the target of most rationalisation projects has been the school where enrolments have either declined significantly or for which significant enrolment decline is forecast.

50. In virtually every Member country documented experience in this basic approach to rationalisation is now sufficient to enable a number of important observations to be made.

51. From a 'rational' point of view there is considerable merit in the approach. If the identified surplus consists of unsuitable, run down, unsightly buildings which are poorly sited and already incurring high maintenance and operating costs then the prudent response is to get rid of them. This is particularly true of those transportable, 'temporary' or demountable buildings which every system seems to have erected and which have outlived their usefulness.

52. However, it is not always the high recurrent cost, unattractive and unloved buildings which have constituted the surplus - particularly if 'surplus' is identified school by school by studying the relationship between enrolments and building capacity. Examples abound in which high-quality permanent buildings erected as recently as five to ten years ago have either never reached expected enrolment levels or the enrolment peaks have passed leaving a significant fraction of the building underutilised. In these instances in particular recent experience has shown that the political, administrative and organisational aspects are at least as important as educational and economic considerations. Time and again proposals emanating from central or regional authorities and involving one or more elements of closure, amalgamation, restructuring of years levels, etc., have been frustrated by political resistance even though the educational, social and economic consequences of the proposals are positively favourable by any external objective analysis.

53. Attempts at rationalisation of school buildings have often exacerbated existing feelings of loss, restriction of opportunities and general powerlessness in communities which, in many cases, have suffered the effects of economic recession and slow development of the urban service infrastructure. In established areas the proposals to close, amalgamate or restructure schools have also been greeted with strong resistance from those wishing to retain the status quo. Proposed changes, particularly any resembling a constriction of educational service, have been stoutly and often effectively opposed by the community concerned which has remained unconvinced of the advantages allegedly associated with the proposed change.

54. In such cases a double penalty results. The proposal is defeated and the residual climate remains strongly antagonistic to any subsequent effort to bring about more rational provision of educational services (23).

55. It is therefore necessary to know and understand the political and administrative context as well as the educational and economic context before devising responsive building policies. The organisation of education and the power relationships between the various levels

and agencies in any country are complex. They vary within and between countries and useful generalisations are very difficult to formulate. However, considerations of this kind are critical to the efficacy of policy development and in many respects hold the key to translating the opportunities inherent in the building resources into the satisfaction of educational needs.

56. It is not within the scope of this paper to analyse and compare the political and organisational context of education in every Member country but there are some general features which cannot be overlooked because they have emerged in recent years as the essential framework within which school building policies and implementation strategies must be developed if they are to be successful.

57. The most important general feature of all systems is the continuing search for a workable balance between central and decentralised authority. Four levels of administrative control typify the situation in most Member countries:

National (State)

Regional (Provincial)

Local (Municipal, town, suburb, neighbourhood, etc.)

Institutional (School, college, etc.)

58. There is clear evidence in many countries of a trend towards decentralisation with the transfer of powers from the national or State level to regional, local and institutional level. The argument for decentralisation vary from a general political or ideological commitment to empowering individuals and 'the community' with control over decisions which directly affect them, to an expression of belief that improvements in the acceptability and quality of the outcome will result from greater involvement of those affected. In any event teachers, parents, students and the lay community are demanding - and receiving - much greater participation in the control of schools and in particular, the school buildings.

59. In France, for example, where the educational system has traditionally been highly centralised, a general shift of power from the centre to regional, subregional and municipal levels is in progress. Simon has drawn attention to the distinction between decentralisation - the transfer of powers and responsibilities from the centre to autonomous agencies such as the municipality, and deconcentration - the delegation of powers to locally or regionally based representatives of the central authority. Whether one or the other or both of these processes is occurring the general direction of change remains the same - from the central authority towards the school.

60. In Sweden deliberate efforts have been made to decentralise a broad spectrum of educational decision-making to the local level

and in countries such as Australia (especially Victoria), New Zealand and The Netherlands the development of the role of the school board (or council) has been accompanied by an increase in the extent of school based control over building decisions.

61. Not only is the direct power of the more central educational agency tending to weaken as decentralisation occurs but, as the school emerges as more and more of a multi-purpose community asset, the powers of the central school authorities are being shared by those of other human service agencies such as welfare, recreation, health, etc., which have a stake in the school buildings. New schools are often jointly funded by more than one agency and along with an increasing number of existing schools are being used for a broad range of community as well as solely school purposes.

62. Even the priority of the educational function of the building is being challenged in some cases. For example, in some multi-purpose neighbourhood centres (which include schools) components such as the playground, sports facilities and library are no longer the exclusive preserve of children even during school hours. Some such centres are managed by committees on which educational representatives constitute a minority and, to a considerable degree, the school has become more of a tenant in a building complex which in past years would have been wholly under the control of school authorities. This may be no bad thing but it certainly affects the power relationships.

63. Thus, as a result of various forms and degrees of decentralisation, and the development of the concept of the school as a multi-purpose community asset, the traditional 'owners' of the school, who often have also been either the sole or major providers of funds, are tending to move to a position in which they have less direct control of their educational building stock.

64. The difficulty is, however, that at the same time as many central political and administrative authorities have both espoused and actively encouraged greater participation at the various levels, they have also come under strong pressure from governments and the general public to achieve improvements in the productivity of the system as a whole.

65. Part of the move towards greater productivity (expressed in terms of greater efficiency or 'doing more with less') has required central building authorities to operate within reduced capital and recurrent building expenditure, and the need to improve the management of educational capital including the existing building stock has been generally accepted 'in the public interest'.

66. Thus, at a time when virtually every Member country is in a transition phase of moving formal control of buildings closer to the local and institutional levels, there have been strong pressures for greater central control.

67. The appropriate resolution of these potentially conflicting forces is neither a return to centralised power nor ultimate decentralisation to the institutional level. Central, regional, local and institutional involvement in property management will all be legitimate and necessary. The task is to establish those policies and procedures which define and clarify an appropriate balance of powers and functions which ensure that the building stock is continuously managed in a manner which is responsive to the educational, social, economic and political context at the community level while at the same time meeting the requirement of being a well-managed public service.

IMPLICATIONS FOR POLICY

68. Buildings are not ends in themselves. Their physical characteristics of size, design, location, etc., are all expressions of a response to a context. In the case of educational buildings that context is both complex and changing. It includes educational, social, economic and political aspects all of which have direct implications for the policies by which the buildings are provided and managed.

69. Any such policy will need to be judged according to four main criteria:

a) Does the policy lead to improvements in educational service, by providing a more appropriate environment for existing programmes and creating opportunities for meeting new needs?

b) Does the policy lead to improvements in the quality of community life?

c) Does the policy lead to improved efficiency by engendering greater use of existing resources, eliminating various forms of waste and controlling recurrent costs?

d) Does the policy contribute to the development of the community, not only by way of outcomes which enhance service to the community but also by contributing to the development of the skills, confidence and power of the community to participate in the decisions which affect them?

70. Each Member country will apply these criteria with different emphases but from the experience of recent years a number of general guidelines have emerged which assist policy development. They are no more than guidelines. They will need to be interpreted in the general context of each country and, in turn, in the uniquely local situations in which educational building decisions are ultimately made.

A property management approach as part of educational building policy and practice

71. Property management involves the consideration of educational capital from a 'real estate' point of view. The approach draws on the commercial sector analogy with its concepts of turnover of buildings, recycling, amortization, rationalisation for maximum efficiency, and the perception of surplus as waste to be eliminated by hard-nosed investment management.

72. Put in these terms it is not surprising that proposals to include property management approaches in school building policies are greeted with limited enthusiasm by sections of the education profession such as teachers unions. Commercial sector analogies cannot be translated indiscriminately into the public human service domain. Education of children and broader aspects of the quality of community life are, by definition, driven by other than motives of profit or towards goals of quantifiable efficiency.

73. Nevertheless, there are limits to the resources on which the delivery of human services depend, and waste (whether publicly perceived or not) which could be avoided by improved management of resources, particularly the building stock, whose capital and recurrent costs directly reduce the financial resources available for staff and learning materials, is as intolerable in educational administration as it is in any private sector commercial enterprise.

74. Thus, provided a proper perspective is maintained, property management approaches are an essential part of educational building policies.

75. The objectives of property management have been stated as:

a) to maintain a continuous match between building needs and building provision

b) to reduce premises-related recurrent costs

c) to increase the ability of the existing stock to meet future needs (24).

76. There is no simple single mechanism by which these objectives are certain to be met but a number of useful guidelines for systems, techniques and organisational structures are emerging.

77. One of the fundamental requirements for effective educational property management is adequate, timely and accurate management information and the evidence is that such information systems need considerable improvement in many Member countries.

78. Two main types of information are required:

i) Stock data systems designed to identify what stock exists, where it is sited, what it is used for, its general condition and main details of ownership. Stock data surveys of a particular area would need to include the main details of community facilities as well as the educational buildings in the area.

ii) Costs data systems which record details of premises-related expenditure and projections of anticipated expenditure trends.

79. Educational administrators at all levels often do not know what costs are being incurred on particular buildings and/or on components of school buildings. As a result the quality of management planning and economic decision-making suffer.

80. Furthermore, if stock and cost data are not available then it becomes virtually impossible to allocate funds to cost centres in a manner which is demonstrably fair and equitable. Thus by a form of default the payment of recurrent expenditure remains at a more central level while recurrent costs continue to be incurred without direct financial responsibility at the local level with all such an arrangement implies for the absence of positive incentives for wise building management.

81. Lack of accurate information is a further disadvantage in the process by which funds are allocated by governments to education as a whole. In the current economic and political climate there is sometimes a feeling that the public have 'invested enough' in education in general and educational building in particular and the absence of relevant information means that there is little rational basis for reaching decisions about capital and recurrent allocations.

82. There is both a lack of adequate management data and of management tools by which improvement may well be achieved. Few authorities have established a comprehensive property record or a detailed record of expenditure against different building types and elements although most accept that it is necessary to have an information base of this kind for better maintenance planning and for monitoring and control of expenditure. The compilation of an adequate property record is a complex and time-consuming operation, and with such a volume of information to be handled, computerisation is essential.

83. The science of property management in general is not well advanced in terms of educational buildings. Given that the nature of the educational and social purposes of school buildings makes a strictly commercial approach to their management inappropriate in many respects, there nevertheless appears to be room for improvement through research and development. For example, what is the relationship between age of a school building and its recurrent costs? What objective relationship exists between the

capital value of an educational building and the economic amount which should be set aside annually for maintenance? If the stock profiles described in Figure 2 were not hypothetical but described the characteristics of two actual systems, which profile would reflect a more adaptable building stock?

Minimising the economic implications of changes in pupil numbers

84. The original decision to fund the construction of a school building has been based in the past almost exclusively on expectations about the number of school age pupils. Over time, however, the pupils no longer remain the exclusive users of the building and it seems important to recognise that if school buildings are expected to serve both educational and social purposes then the original capital investment must be viewed as having at least two components:

i) related to pupil numbers; and

ii) related to community based statistics, e.g. the population of the community.

85. The number of pupils will fluctuate over time and their space requirements will change as the age profile, curriculum needs and other needs vary, but from time to time the pupil-related needs will require only a portion of the available space.

86. In the same way as a strictly commercial venture such as a hotel or office block will be financed according to an expected occupancy rate which is significantly less than 100 per cent, it seems reasonable to apply similar targets for school buildings and tolerate any minor (say 15 per cent) surplus associated with fluctuations in pupil-based requirements. Reserves and 'cushions' against future increases in pupil needs are a highly defensible aspect of this component of school building capital investment.

87. However, as far as the community component of the investment is concerned, the statistics are quite different. While fluctuations, including substantial decline, in pupil numbers is to be expected given recent experience, the total population of a typical community is much more stable by comparison with pupil numbers. Some qualitative needs of the community may alter in their priority (for example, the proportion of aged people may increase or youth unemployment may create relatively sudden needs for youth facilities) but, insofar as a component of the initial investment is seen as a population-based community investment, then it is irrational to claim surplus and waste solely on the basis of a decline in the numbers of pupils. From a 'real estate approach' or the investment point of view the greater the component of initial capital expenditure which can be identified as a community investment, the less the impact in the sense of reduced return if pupil numbers fall.

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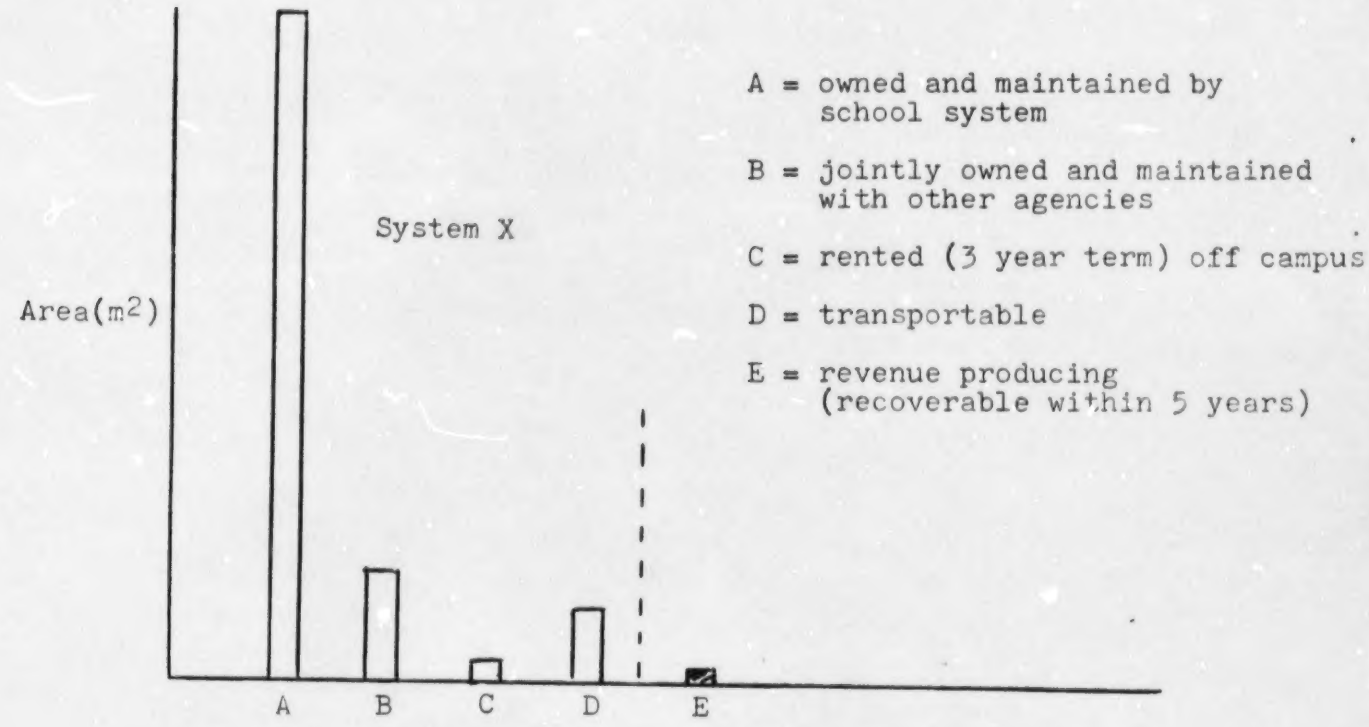
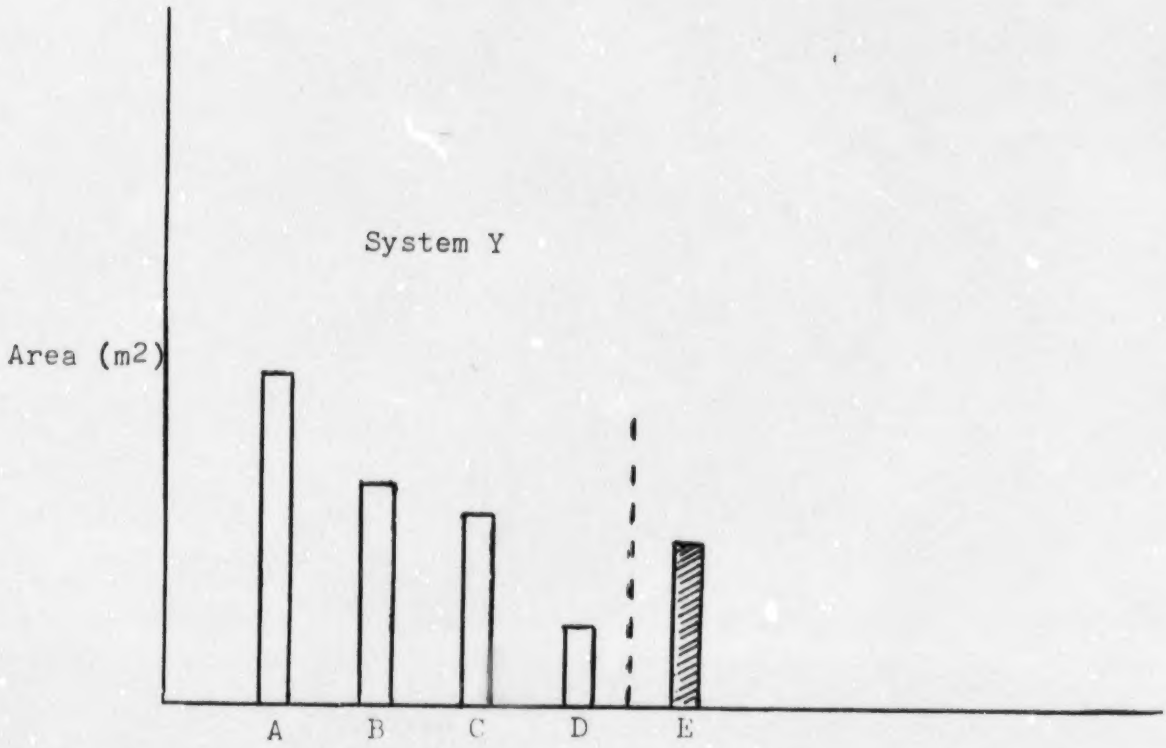
Figure 2 TWO HYPOTHETICAL STOCK PROFILES





88. There are some fundamental difficulties with this approach which need to be recognised and faced by authorities. For example, the law requires that facilities be provided for the education of children and the necessary capital and recurrent funds can therefore be appropriated. Similar laws seldom exist to legitimate the appropriation of funds to provide community facilities and new regulations and agreements between legally constituted authorities are being found necessary in many countries. Basically it is a question of policy. Is the building a school, a community facility or both? Whatever the answer there should be a rational relationship between funding (particularly recurrent) and function.

89. There is a further logical consequence of this view of the school building as a capital investment in the quality of community life. Educational authorities may not always be the appropriate 'owners' of the school buildings. They may well be the initial 'owners' while the building is primarily, if not exclusively, used for schooling although the status of 'preferred tenant' may be more appropriate. Ultimately, however, if the number of pupils declines by a sufficiently large amount there may well be a case for the entire building to pass to community ownership albeit on the formal understanding that future needs for schooling may well have priority.

90. This community ownership as distinct from State (or ministry) ownership of the school is not as radical as it may seem to some Member countries. In France and the Netherlands, for example, all primary school buildings are owned by the municipality or school board. In the United Kingdom the Local Education Authority (LEA) operates the entire range of schools through its Education Committee and in Sweden recent changes to legislation have decentralised not only the ownership of school buildings but also their funding to the local level. In many individual building projects substantial portions of the building are owned by community agencies (e.g. local government) and in some neighbourhood centres the school is in fact a preferred tenant subject to the control of a management group on which it has representation.

91. Any movement towards community ownership of school buildings with funding arrangements based on the more stable demography of the total population of the community rather than a particular age cohort of the community will change the nature and locus of property management responsibilities. Fundamental changes will be required in established practices for the appropriation of capital funds and the allocation of recurrent resources; but the basic principles appear to be more logical and the outcomes more manageable than any arrangement in which one specialised authority provides capital facilities based on pupil enrolments, actively encourages the use of the facilities by others and then attempts to withdraw the facility solely on the basis of pupil statistics. Some of the political problems discussed earlier can be seen to be deeply rooted in these apparent inconsistencies in school building policies. Conflict is surely inevitable when, on the one hand the educational system encourages parents, teachers, pupils and the community to develop feelings of unconditional ownership with limited financial responsibility and then at some later date proposes the removal of ownership for reasons which are no fault of the community concerned.

92. Standards of space allocation require comment at this stage because 'surplus' (and hence 'opportunity') is often defined in terms of excess over a general standard of provision. One view is that a 'natural standard' might well be applied to each school building - that is to say, the standard of space which allows a school (and community) to pursue its programme objectives without being compromised by space limitations. Such a standard would only be relevant to a particular building considered in its unique educational and social context. There is, of course, something of a dilemma which results for those concerned with equality across a system when resource allocations differ from one community to another. The resolution of this dilemma is helped by:

a) allocating according to need;

b) establishing a productive tension between school and community needs; and

c) linking financial responsibility with the user of additional space.

Reduction of recurrent premises-related costs

93. There is strong evidence that given fair and equitable allocation of either cash or credit, the user of the building should have responsibility for recurrent expenditure. Premises-related costs are met from the total resources available for school and community services and therefore should be minimised.

94. Certainly there are technical aspects to the control of premises-related costs but many authorities agree that for a given facility the most effective controlling factor is user behaviour which is far more likely to improve when the user has control of the relevant finances and direct financial incentives are available for improved building management (25).

95. In most Member countries, however, no such incentives apply. Energy bills, for example, are generally paid at a level more centralised than the individual school and often without a report against an energy budget - a practice which Worthington claims has long been accepted as uneconomical in the private commercial sector (26).

96. There appear to be few arguments in favour of the allocation of major, routine or programmed maintenance funds to the institutional level. These types of maintenance, as distinct from minor repairs, can be seen as directly related to the initial capital investment and many would argue that whoever invests the capital should also have responsibility for long-term maintenance. If this responsibility for major maintenance expenditure is linked with ownership of the building, a number of consequences follow:

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a) Life-cycle costs are more likely to be considered at the point of initial investment. At present, maintenance appropriations are often determined by factors which are unrelated to the value, age and condition of capital assets whereas in a well-managed commercial enterprise adequate annual maintenance expenditure is seen as essential to maintain asset value and operational efficiency. The analogy can be taken too far but the point appears to be relevant.

b) Appropriate balances would be more likely between the retention of underused assets and the consequential maintenance costs.

c) Redevelopment of facilities could be planned in a more rational manner with capital redevelopment offset against consequent savings on imminent maintenance and other recurrent costs (27).

97. One of the major obstacles to allocating any maintenance funds to the individual school is the difficulty of calculating an appropriate and equitable allocation. The number of variables to be considered is large and further analysis of the kind referred to in paragraph 39 will complement research undertaken in New Zealand from whence Jeffares reports:

> "Maintenance funds are currently apportioned on a m^2 basis which shows some inequalities between authorities. Several other methods have been explored but all show similar shortcomings. Population-based funding looks promising and offers the most direct and administratively simple method but has not yet gained the acceptance of controlling authorities" (28).

98. The transfer of school building ownership to the community along with ongoing financial responsibility would introduce potentially powerful incentives for improved property management.

99. In those countries in which the proceeds of the sale of public assets and revenue derived from leasing of surplus school buildings are returned to the State, the local communities who 'lose' the building often perceive the transaction as their loss and someone else's gain. Technically, of course, their perception is wrong but it is real enough and leads to some of the important 'micro-political' forces discussed earlier.

100. The situation would be very different if the proceeds from sales and revenue producing arrangements were retained in the local community with agreed limits on their use which were appropriate to the particular local situation, controlled by formal legislation and monitored at central levels.

101. Such an arrangement has the potential to benefit both the local community and the central agencies. The community gains an asset and the central agency is relieved of what to a large extent is often a building which has served its original purpose and become a financial and political liability.

The decision-making structures

102. The management of a stable or contracting situation is a very different task from the management of expansion. It is not simply a matter of 'reverse growth' or 'winding back' - it requires different skills, different objectives and different sets of relationships between levels of authority in the decision-making structure. Very few of those involved in educational administration have been left in any doubt of the need for clear and, in many respects, more appropriate definitions of "who decides" and "how will decisions be made".

103. There are, as we have indicated in the review of the context, two underlying forces which, in many systems, tend to be in opposition. In recent years decision-making at the school level has been promoted with the development of a sense of local ownership and pride in the buildings and programme of the school. At present, however, there are opposing pressures at the system level to improve efficiency, reduce rising unit costs and exercise control over issues such as equity and the fair distribution of public resources. Problems are bound to arise when localised decision-making and the concept of neighbourhood schools are developed without a clear understanding of the parameters within which this is done, and a redefinition of those decision-making powers which are to be retained at the central or regional level.

104. How then can these problems be resolved? Who does decide? Is it simply a matter of 'courage and determination' at a central level with all that might imply for the limits of local participation in decision-making, or does experience suggest that the ideals of a decentralised system remain tenable and effective in a context of contraction?

105. The following main categories of decisions (and actions) will need to be taken in any system:

Policy making: the determination and dissemination of the broad policy framework within which the educational building stock will be provided and managed. (For example: policies about comprehensive, academic or vocational schooling; norms, standards and/or guidelines for the design of school buildings; the requirement that all children will remain at school until a certain age, etc.).

Planning and implementation: the decisions about the need and provision of buildings for school and/or community use. (For example: the need for a capital project or major maintenance project, the amalgamation of schools; the translation of demographic forecasts into a school map, etc.).

Funding: decisions about the allocation of financial resources both capital and recurrent. (For example: the funding of a capital project; allocation of grants for repairs, etc.).

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Support services: the provision of services such as data storage and processing, statistics, legal services, etc.

Operational: decisions involved in the day-to-day operation of buildings. (For example: repairs, time-tabling, energy consumption).

Research and development: decisions involving the establishment of models, dissemination of the results of research, case studies, etc.

Monitoring and evaluation: involving the review and assessment of building stock with emphasis on its educational, social and economic effectiveness.

Training: the development of the skills, techniques and attitudes of all those involved in the provision and management of the school building stock.

106. Given this range of roles and decisions which need to be made, the next question to be answered is "what levels of authority exist in Member countries?". The answer, of course, is that there is a very great variety, but one useful classification leads to the identification of four main levels of authority:

Central level: National (e.g. France, The Netherlands), State (Australia, United States), Province (Canada). Usually, a Ministry of the central government with responsibility for public education policy.

Regional level: Regional (France after 1983 legislation, U.K. the LEA, the Canton in Switzerland). In some countries a regional level is established as an extension of the central authority (deconcentration).

Local level: Here there is a wide variety of authorities including municipality (France, Belgium, Portugal, The Netherlands) and borough (U.K.).

Institutional level: The school.

107. From a survey of case studies of educational provisions in the United Kingdom [Wiltshire (29), Ollerton (30), Croydon (31), Manchester (32), Coventry (33)], The Netherlands [Zutphen (34,35)], New Zealand (36), Australia [Elizabeth (37), Sydney (38), ACT (39)] and Belgium (40), a number of tentative conclusions can be drawn about the distribution of decision-making roles, the need for change, the options available and the trends which appear to be developing.

108. Each Member country has its own choice to make about its decision-making style. One option is to centralise, to define and clarify roles and declare educational building policies which by any assessment satisfy all of the criteria described in paragraph 69. By closing schools, by amalgamations, disposal of surplus and restructuring educational provisions, opportunities can be created to increase the range of curriculum offerings, increase the provision of community facilities and achieve greater efficiency defined in terms of an expansion of services at equal or reduced cost. On the other hand, the option exists for Member countries to decentralise with the additional objective of empowering people to participate in the decision-making which directly affects them. Given the range of decisions which need to be made and the various levels of authority there are many options available for striking an appropriate balance between centralised and decentralised approaches.

109. The point is, however, that considered choices must be made. Those decision-making structures and power relationships which evolved in a period of affluence and growth will need to be reviewed and, in a great number of cases, changes are needed in response to the present context. New roles will need to be clarified and explained to all those involved and proposals for change accompanied by appropriate training programmes.

110. In general, the evidence from case studies supports the distribution of decision-making roles outlined in Figure 3 which has been influenced by the following key observations:

a) Rationalisation plans which are developed by central or regional authorities encounter powerful and persistent opposition when proposed at the local or school level despite any amount of consultation and an apparently high level of rationality in the proppsed outcomes. The problem seems to be that those schools at which almost any form of change is proposed will resist that change unless it takes the form of unqualified increase in resources. If additional resources are accompanied by conditions such as the transfer of staff, loss of jobs, need to accommodate new groups of students, etc., the chances are that the 'status quo' will be preferred and vigorously defended. Amalgamations tend to be viewed as 'take-overs'; opportunities to increase or even maintain the range of curriculum options are seen to be 'unnecessary', and emotional and 'party political' appeals (which are very often successful) are made by local pressure groups which have formed in every case reviewed. The central authority ('central' as perceived by those affected) is therefore placed in a 'no-win' situation because either:

   i) the proposal is rejected, leaving an educational and community provision which is less than satisfactory, likely to worsen, and is now less amenable to improved management; or

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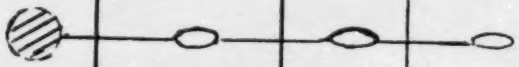
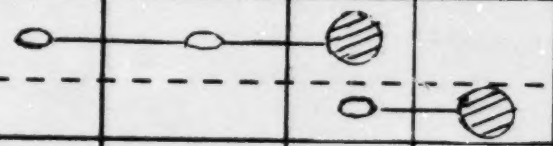
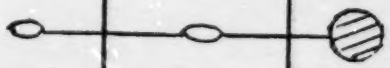
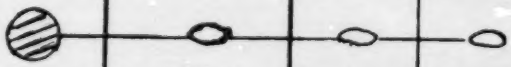
Figure 3 TRENDS IN THE DISTRIBUTION OF DECISION-MAKING ROLES

	CENTRAL	REGIONAL	LOCAL	SCHOOL	COMMENTS
POLICY					The major focus of policy determination is currently at the central (or regional) levels in most Member countries
PLANNING & IMPLEMENTATION					While there are trends in most Member countries towards decentralisation to the local level, the regional level is often the focus for planning & project implementation in the transition phase
FUNDING CAPITAL RECURRENT					Block grants of capital and recurrent funds currently tend to be allocated to regional level with a trend towards local allocation
SUPPORT SERVICES					Currently most support services are located at the central level and it is likely that regional and central levels will continue to have a role to play in providing support services
OPERATIONS					The tendency is for operational decision-making to move to the local level with more and more decision-making being devolved to the school
R & D					Depending on the scale of the system R & D roles may also be shared by the regional level
EVALUATION					Some monitoring and evaluation roles will be necessary at all levels with central and regional roles predominating
TRAINING					As for evaluation

Major Role =

Minor Role =

ii) the proposal is implemented by a process of imposition which reduces the ability and commitment of the local community and/or schools to solve future problems of rationalisation.

b) Rationalisation plans which focus on single schools and are perceived as centrally developed are less likely to succeed. There are exceptions to this general observation but, by and large, the proposal to close one school in a neighbourhood, suburb or town is strongly resisted, not only by the school community in question but also by such groups as teachers' unions, and other schools which perceive the possibility of their later involvement in similar rationalisation proposals.

111. Thus, in general terms, the distribution of decision-making roles which the evidence suggests is appropriate leaves the more central authorities with main roles of policy formation, research and development, monitoring and evaluation; the local level with the main roles of planning and implementation, funding (both capital and recurrent) and the deployment of support services, while the school becomes the focus for operational decisions including recurrent expenditure on operations and repairs.

112. From the funding point of view the role of central and/or regional levels would be the allocation of block grants of both capital and recurrent funds to the appropriate local level where the opportunity for virement between funding categories should be available.

113. At the school level there seem to be good reasons why managers should have freedom to deploy at least a proportion of their available funds in ways which encourage improved management. For example, it seems appropriate for school resources to be allocated in two components. One component would be non-negotiable and comprise basic staffing, essential materials, etc. The second component, however, would be flexible and comprise a lump sum allocated from local (municipal) resources on an equitable basis and able to be deployed for:

teaching staff (in addition to the basic allocation)

non-teaching staff

additional learning material

premises-related costs

student amenities (excursions, etc.).

114. Such an arrangement introduces direct incentives for schools to reduce premises-related costs (e.g. energy) in favour of staff, materials and opportunities which are more directly related to learning activities. Co-operation between schools and other institutions is encouraged by the direct benefits which accrue when staff and facilities are shared and joint programmes are undertaken.

The development of a network of school and community facilities

115. As a rule, schools have been established as self-contained entities. Staffing allocations, the scope and nature of the curriculum, financial resources, and, in particular, the school buildings have generally been developed on an individual school basis. The governance of the school whether it be by Principal and/or the school board (or council) has held, as one of its main aims, the fostering of school identity and individuality.

116. One contributing factor to this view has been the concept of the school as an educational enclave in which children have, in a sense, been withdrawn from parents, the community and other external influences partly for their protection and partly because external influence has been viewed as a potential distraction from effective instruction.

117. One consequence of this approach has been varying forms and degrees of competition between schools. Enrolments (and the resources they bring) are one indicator of the popular success of an individual school and, in recent times, as the total number of pupils has stabilised or declined, the competition between schools has often been exacerbated. Competing schools have needed to retain or add to their buildings in order to remain competitive in a declining 'market' and, at a time when it might seem logical that buildings would become available for other purposes, the very opposite trend is frequently experienced.

118. This isolation of individual 'neighbourhood' schools from other schools and educational institutions in the vicinity significantly reduces the options available for a more effective deployment of the whole range of educational resources, including the school buildings. When there were fewer restrictions on the availability of resources (and, incidentally, a generally narrower and more academic curriculum) the merits of developing individual school identity may have outweighed any perceived disadvantages. In the current situation the need for maintaining and adding to curriculum options and the limits on available funds are much more effectively managed if the divisions between schools are less marked and the scope for more inter-school collaboration thereby increased.

119. Divisions between the organisational levels of education (e.g. pre-primary, primary, lower secondary, upper secondary, further and higher education) have been sharply defined in most Member countries. In recent times, however, a number of important changes have been observable to this compartmentalised view of what is often described as a continuous process.

120. The school appears to be losing its monopoly over the education of young people. At the secondary level, in particular, the conventional school is now only one of a widening range of educational and training agencies which include the work place, the media, and vocational and pre-vocational programmes devised and provided outside the traditional educational establishment. With the developments

in new communications and data processing technology it is conceivable that the home will also become more of a formal learning base as an extension of or adjunct to the conventional school.

121. Significant changes are occurring in the conventional divisions between age levels particularly at the upper secondary or post-compulsory level. For example, in some Local Education Authorities in the United Kingdom, tertiary colleges for 16-19 year olds are being established breaking the traditional pattern of the 11-18 year-olds school (41).

122. Thus the concept of the neighbourhood school as a self-contained institution providing a 'complete' range of learning experiences for all its pupils, gives way to the concept of each school as part of a network of institutions with each pupil able to gain access not only to the opportunities provided by the 'home school' but also to those provided by other schools, further education institutions, the work place, and the community.

123. This concept of a group of schools forming a co-operative network operating within broad centrally determined policies has considerable potential from the point of view of responsive policies for educational buildings. The optimal number of school (and other institutions) in any network will depend on local circumstances. In a rural township all schools may be involved whereas in a high-density urban area it may be more appropriate to develop a network of only secondary schools. In some circumstances several networks will be necessary when account is taken of the total number of schools, their location, transport patterns, the availability of community facilities and the local demography.

124. The potential network of schools to be considered may well need to extend beyond the public education sector. In some Member countries the private (non-government) sector of schooling receives various degrees of government assistance in the form of capital and/or recurrent grants. The origins of this dual system of schooling vary from one country to another but in a context of limited funds and declining overall enrolments the possibilities of the interdependence of assisted private schools and the fully supported public system have been the focus of increasing attention.

125. Any drift of pupils from one sector to another will inevitably produce surplus spaces in the less popular sector and a demand for additional, often duplicate, places in the other sector with the accumulation of additional stock the inevitable result. There is more at stake than merely rational building policies particularly if the drift is towards the private sector as a result of restrictions on curriculum offerings in government schools by inter-school competition and the absence of co-ordinated programmes.

> "If in a situation of demographic and financial contraction, the quality of the public school sector is seen to be impaired, the competition with the private sector could be exacerbated in the coming years, with all that this implies for the pursuit of the objective of equality of opportunity" (42).

126. Examples in The Netherlands and Australia (43) point to ways in which the private (or semi-private) schools can be included in the total network of schools. Identities are retained but the divisions between schools are blurred and greater opportunities for adapting and managing the existing school stock are created.

127. Anderson et al in a report on the establishment of a new school in Canberra (Australia) advocates an "educational impact" approach to the consideration of each school as an interrelated part of the total network of schools in a particular area and raises some interesting questions in his outline of the factors to be considered:

> "Impact is a new concept in the discussion of education... There is a need to be concerned with the likely effects of proposed schools on existing schools for a number of reasons... Such an impact assessment may be considered, for purposes of analysis, under the following headings:
>
> Demographic effects: What changes will occur in the enrolments of existing schools?
>
> Economic effects: What is the cost to other schools and to the community of providing additional capital facilities? What are the economic consequences of accelerating the rate of decline of enrolments in existing schools?
>
> Educational and social effects: What effect will a new school have on pupil mix in neighbouring schools? Both direct and indirect effects should be considered.
>
> Education need: Will a new school meet a need not currently met by an existing school in the area? Will it provide a curriculum different in some important sense from that already available?" (44).

128. The concept of each school in an area as an integral part of a network of educational institutions including further education institutions, private and public schools, training centres (private, and public), pre-schools, etc., is easier to translate into practice in a newly established community. Funding arrangements, design, location of building and sports areas, agreements between co-operating parties, an overall management structure and, above all, the acceptance that a continuous process of review and adaptation of the use of the buildings will occur, can be instituted from the outset.

129. In an established community, however, a number of forces tend to work against such an arrangement. School buildings tend to be designed for a particular number of students in a particular age range: parents and teachers expect that a complete range of

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facilities will be provided in each school; funding is based on the forecast enrolments at a particular school rather than related to the total, all-age enrolments in the area; and parents, teachers, students and the local community are likely to have worked hard at developing a commitment to 'their' school as a self-contained unit.

130. These inherent obstacles to establishing a network of educational facilities with a maximum number of 'degrees of freedom' in terms of size, age range, curriculum, interrelationships with other schools, etc., require time, support from central authorities and, in many cases, the investment of further capital resources. This latter requirement stems from two main factors:

i) An adaptable network of educational buildings is more than merely the aggregate of an existing set of self-contained schools designed and built to a brief which took little or no account of the long-term 'educational impact' of the school.

ii) The political reality in many communities is such that the individual school supporters will need to be convinced that the change will bring tangible benefits to their children; the 'status quo' will have considerable attraction and the community is likely to oppose any alteration to the 'status quo' unless they are convinced that real improvements in the quality of educational opportunity will result. This will very often require capital expenditure.

131. Some of these additional costs may be discounted by capital gains in the event of the sale of property or by longer term savings in recurrent costs but experience has consistently shown that some capital expenditure has been necessary to convert a group of schools into a more manageable and productive network.

132. Any consideration of educational buildings as a network must also include community needs. Ader concluded in 1978 that:

> "Measures need to be taken and the necessary 'administrative reflexes' created so that each proposal to build a school is carefully examined to see what relationships it might have with other facilities; so that any educational building project or any other social building project is seen as an opportunity and focus for discussing the totality of social needs in the locality..." (45).

Acceptance of this conclusion has now become a pervasive trend in the educational building policies of a number of Member countries. Where this trend has become firmly established, e.g. in Sweden, hardly a new school is built which is not designed, located, funded and managed as a component in the network of school and community facilities.

133. This radical change in the nature and purpose of school building can add yet another degree of freedom to assist in establishing a more appropriate service, more efficient use (in terms of total service provided at an acceptable cost) and a building stock which is more amenable to adaptive medium- and long-term management than a stock which is solely educational in its purpose.

134. Again the aim of a network of multi-purpose buildings is more easily achieved in newly developing areas but the experience gained in new areas serves to illustrate the nature of the task involved in more effective management of existing networks.

135. However, when the existing stock of school buildings is considered, a now familiar set of difficulties arises. Specialised single-purpose buildings, often sited in such a way as to inhibit alternative uses, unfavourable zoning regulations and counter-expectations on the part of parents and teachers frequently make it difficult to adapt the school to improve the range of facilities available to the community.

136. Despite these difficulties there are enough examples to show that conventional school buildings can be converted to serve a wide range of purposes. In Sweden, for example, where, in one rural area, forty-nine small schools became surplus as a result of changes in the local industrial base, every one of the schools is now used for an alternative purpose. The uses include housing, small factories, youth centre, sports clubrooms and community centres of various kinds (46).

137. Experience also shows that portions of an under-used school can be successfully converted to non-school purposes. Certainly careful thought needs to be given to the compatibility of the various activities which take place in the one facility but there are so many practical examples of the multiple use of what were originally single-purpose buildings that, although pre-planning for alternative uses would have made for easier conversion, there are surprisingly few limits to what a school building can become. Thus, if authorities are prepared to:

a) consider a <u>group</u> of schools with a view to establishing a co-operative network;

b) maximise the number of degrees of freedom by putting aside at least some of the conventional constraints such as age levels, time-tables, etc.;

c) include community as well as educational needs in their considerations;

d) outlay some new capital with a view to improving the productivity of the building network;

e) encourage and support the group of schools in a co-operative decision-making process;

then experience suggests that a collection of under-used, separate and competing schools can be developed into a network which improves the range and quality of services at the same time as the 'productivity' of the buildings is enhanced.

138. The results of such a transformation should not be judged entirely in terms of the immediate or short-term improvements in efficiency of building use. The context is continuously changing and the adaptability of a network will only be assured if the process of network development includes the establishment of those organisational structures and expectations which lead to ongoing review and development.

139. One of the lessons to be learned from the results of previous school building policies is that 'once and for all' solutions are an inappropriate objective. Sooner or later, and almost certainly well within the life of a building, change becomes necessary and the conditions which facilitate such change need to be incorporated into responsive policy development.

140. The key element in such an arrangement seems to be the establishment of some form of locally based network management group whose tasks include the continuous review and adaptation of the components of the network. The structure of such a group will vary according to the situation. In many cases informal arrangements are made but evidence from Scotland (47), Belgium (48) and Australia (49) points to the advantage of establishing a more formal structure for network management and review. In Elizabeth, South Australia, the authorities are experimenting with the notion of a 'Youth Council' comprised of local representatives of the various groups involved in providing a range of educational and social services in a town in which youth unemployment is a dominant feature.

> "The Council should have youth representatives and representatives from local employers, industry and trade unions. It should also have parent representatives. The process by which it makes decisions should begin with the clients, the youth of the Elizabeth area and their parents... It is likely that they will come up with a similar solution to that originally proposed (by educational authorities) but there will be the important difference that they own the proposal" (50).

Implications for new design, research and development

141. The fundamental aim of any educational building programme is to provide the physical environment which best serves the educational and social needs of a community. These needs are continuously changing and demanding new responses from architects, administrators and funding authorities all of whom will need to work as much with the existing stock as with new capital funds. The two questions "What can become a 'school'?" and "What can a school become?" will be answered in diverse ways and a very important role needs to be assigned to research and development groups to identify, develop and disseminate the key characteristics of the more salient examples.

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142. For example, few people are confident of the effects on the built environment of education which will follow the technological revolution now in progress. Forecasts vary from virtually no effects at all to prophecies which would transform the entire conduct of education if they eventuated. A more urgent but closely related problem is the identification of the range of appropriate building responses to the current, and apparently lasting, problems of youth as structural changes in the patterns of employment radically alter the relationships between education, training, work and leisure.

143. In the context of this paper the research and development effort which is required includes the study of how the existing network can be transformed as much as the study of the number and nature of the new buildings required.

144. There will be new buildings to design, locate, fund and administer but after many years in which the general task has been to translate educational briefs into mono-purpose school buildings, architects and administrators have only just begun to explore the challenges of developing briefs for building networks which will not only serve the multi-purposes of education and the community but also result in a stock which is more readily managed to meet emerging requirements.

145. In the current context there are few policy makers who do not wish that their existing stock of educational buildings was:

- less expensive to maintain, heat and clean
- at least partially comprised of rented property rather than being wholly owned by the educational authority
- more saleable
- more adaptable for alternative purposes
- more able to serve community needs
- more able to generate revenue
- less cause of controversy when change is proposed.

146. As a result, monumental, single-purpose buildings have tended to give way to separate 'village' complexes with shared facilities and features which invite a range of alternative future uses. Two broad categories of projects can be identified:

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i) Projects which include school and joint school-community components which are purpose-built and fully operative from the completion of the building.

School Component	School and Community Component
e.g. classrooms, laboratories (also used for adult education)	e.g. library, sports facilities, drama

There are many examples in this category. Some (e.g. Crewe, United Kingdom; several Netherland centres) also include single-purpose community facilities such as senior citizen clubs, tavern areas, etc. As pupil enrolments decline from peaks, surplus spaces develop in the single-purpose school component but not in those areas which are jointly used by both school and community.

ii) Projects which include school components, joint school-community components and a third component which can be converted from school use to an entirely different use.

School Component	School and Community Component	Convertible Component
e.g. classrooms, laboratories, etc.	e.g. library, sports facilities, etc.	

A growing number of projects include this convertible component which begins to operate if and when enrolments decline. Examples include a Canadian school designed to operate as a senior citizen home, schools in Austria, Sweden and the United Kingdom in which areas initially used as classrooms can be economically transformed into housing units, and urban schools in The Netherlands and Australia in which classrooms are designed, accessed and sited for possible future use as clinics, counselling services, child care centres, clubrooms or limited term office rental.

Many of these design features are untried in the sense that the 'future alternatives' have yet to be commissioned. Research, evaluation and objective assessment of the educational, social and management aspects of these facilities will be needed.

147. In recent times designers have sought to provide more flexibility in the spaces of which a school building is comprised. In the future it may well be that this search for greater flexibility will need to extend to the organisational, management and time-tabling aspects of schools and groups of schools.

148. Oddie points the way by suggesting the "deconsecreation of sacred cows", illustrating the point as follows:

> "One assumption in England and Wales is that the minimum viable roll for a secondary school is 950. (In France) the optimum has been reduced to 650, and indeed in pre-war England even this would have been thought quite large. The difference between pre-war and present day, and between England and France, is accounted for by yet another assumption - that every secondary school must be able to offer a wide range of options. This in turn relies on a further assumption - that students should confine their studies to only one school, even though a tolerable journey would get them to another which offered a subject not available in their own. If rationalisation is to be genuinely rational, all such assumptions must be questioned".

149. Oddie's suggestions echo those made by others whose questioning of traditional habits in education opens the way for the development of innovative models of schooling which, on the one hand retain or enhance the quality of service and on the other introduce added degrees of freedom for those who administer limited resources such as staff, finance and buildings.

150. The tools, techniques and skills which are needed in the unique field of management of educational and community property need urgent research, development, trial and evaluation. Instruments such as educational impact statements, recurrent expenditure analyses, etc., are lacking and more work is needed such as that conducted by the Edinburgh Computer Aided Architectural Design group in developing the BADGER system for appraisal of building stock.

151. Perhaps the most urgent and potentially fruitful research and development activity is a form of action research in which a group of 'change agents' work with a group of schools and the people of the area involved to help the local community to establish their own skills and procedures for solving their own problems. The immediate outcome of such interventions will be important but the skills and procedures which are developed will be even more important if an ongoing adaptive process is initiated at the local

level. Case studies, reports and exchange of information will lead to a necessary improvement in understanding how unique and locally appropriate solutions can be accommodated within traditional system-wide constraints.

152. Of particular importance will be the development and dissemination of new roles for administrators at all levels. Architects, for example, will need skills which are different from those which enable the translation of a brief into a new building. They will also need to be able to work closely with school and community people, assess in creative ways the opportunities inherent in the existing stock of school and community buildings and identify the economic and functional pros and cons of alternative courses of action.

153. Finally, the whole process of decentralisation of decision-making needs to be researched, monitored and information shared about problems, advantages and the optimum characteristics of the balance between central, regional and local power relationships.

CONCLUSION

154. The context in which educational building policies are developed and administered has changed and will continue to change. The opportunities to respond in ways which meet the needs of children, youth and the community now depend very much on what can be done with what currently exists.

155. Much of what exists is old and all of it is ageing. Many buildings are inappropriate either because they are in the wrong place or designed and equipped on a set of assumptions which no longer apply. Much of the building stock shows it was needed in a hurry and a large proportion is relatively expensive to keep in service.

156. Despite the problems these characteristics pose, the evidence is mounting that policies can be developed which lead to better educational provisions, improvements in the quality of community life, and more efficient use of public resources.

157. Increased flexibility in the organisation of schooling, closer ties with the community and greater awareness of the potential of educational buildings for alternative uses will help the further development of responsive policies.

158. But perhaps the most important objective to be achieved is the development of more appropriate decision-making structures with funding arrangements which reflect the new purposes of school-community buildings and introduce the incentives which encourage more efficient and creative management.

159. Viewing each school as part of a co-operative network seems likely to greatly assist the achievement of this objective. Identities can be preserved, decisions made by those directly involved, and the positive results of restructuring and rationalisation retained for the benefit of the participants in the network.

160. From an initial approach to rationalisation which tended to emphasize the withdrawal of resources from communities by closures and the cutting out of surplus, policies are now developing which encourage co-operation, create the conditions for joint action and mutual support and empower communities to continuously review and redeploy their building resources.

161. In an educational and social context which is complex and dynamic this development of structures and processes which ensure continuous change seems to be an appropriate and effective response.

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